PATENT ABSTRACTS OF JAPAN

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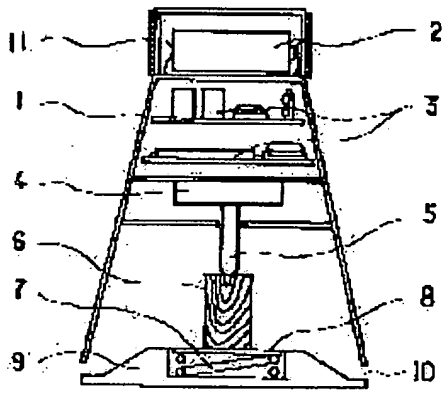
(54) SENSOR FOR TERMITE

(57)Abstract:
PURPOSE: To surely eliminate the maloperation due to a small animal which is other than termites and does not eat a substance for sensing so as to sense the vibration produced when the termites are eating the substance such as wood for sensing that is a favorite bait substance.
CONSTITUTION: This sensor for termites is obtained by equipping a sensor body 1 with a setting means for setting a substance such as wood 6 willingly eaten by the termites near an intruding passage of the termites and a sensing means for sensing the vibration produced by eating of the substance with the termites using a vibration sensor 5.



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TECHNICAL FIELD

[Industrial Application] this invention relates to the sensor for termites used in order that an extermination contractor may carry out quickly, before damage generates subsequent extermination work in a residence by detecting that the termite ate the matter for sensors after invasion or invasion in the residence, or that a large number have gathered around a sensor.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] this invention relates to the sensor for termites used in order that an extermination contractor may carry out quickly, before damage generates subsequent extermination work in a residence by detecting that the termite ate the matter for sensors after the invasion or the invasion in the residence, or that a large number have gathered around a sensor.
[0002]
[Description of the Prior Art] Usually, the termite which does damage to a residence has Reticulitermes and main Coptotermes formosanus. This kind is a pile to per eye in general, in order to make a nest from the kind called underground termite underground. For this reason, it was carried out by checking the existence of the termite to the wood put on the invasion path as the feather ant generated in **** action called swarming seen was found in a residence or it was indicated by JP,63-56240,A. [many / in April - May]
[0003] Moreover, as a method of investigating the damage of a common wood vermin, the interior of wood was observed from the outside by the supersonic detector etc. as indicated by JP,2-251750,A, it investigated whether the opening would have occurred inside wood, or the acoustic-emission (Following AE is called) sensor was attached in non-inspecting wood as indicated by JP,3-102257,A, and there was the method of observing the sound by which the interior of wood is destroyed etc.
[0004]
[Problem(s) to be Solved by the Invention] above -- an invasion -- a path -- having placed -- wood -- etc. etc. -- a termite -- existence -- viewing -- checking -- or -- moreover -- each time -- a supersonic detector -- investigating -- or -- carrying out -- wood -- a vermin -- damage -- a situation -- investigating -- a termite -- generating -- detecting -- a thing -- it is -- if -- being cheap -- a sensor -- developing -- things -- one -- a year -- leading -- 24 -- time supervisions -- it can do -- a system -- it cannot supply -- **
[0005] Moreover, by not obtaining clear sound, in order to gather the sound after being transmitted from a wood front face into air with a microphone, and only the specific noise in air being observed by the installation configuration of a microphone, although it was also carrying out observing the sound of the diet of the termite which has spread the inside of wood by the acoustic emission sensor etc. conventionally, when it was not a much expert, there was a fault that a result could not be distinguished, by this method. Furthermore, even if checked, it became, and there was a fault that the installation of the sensor installed in [many] the under floor was unclear.
[0006]
[Means for Solving the Problem] The sensor which detects by direct vibration that are what removed the above faults, and the termite performed the diet action, or the sensor for termites of this invention drew near and gathered for the attractant is supplied, and offer of 24 time-supervision system automatically notified through the telephone line etc. by a terminal being interlocked with is enabled. Furthermore, the reflective tape which reflects light, such as a flashlight, so that it can discover easily also in darkness is given to the outline section of a sensor.

[0007]
[Function] A termite gnaws the good food matter, or the sensor for termites of this invention detects could draw near to an attractant and having invaded in the sensor as vibration, observes it further for 24 hours using the telephone line etc., and enables the report of a result to a surveillance pin center,large. For this reason, the installation of a sensor can discover easily further by the work of a reflective tape which also stuck check work on the sensor outline section, without not losing the wood of food completely and being influenced by stiffness, how being eaten, etc.
[0008]
[Example] Hereafter, the example of the sensor for termites of this invention is explained based on a drawing. Drawing 1 is one example of the sensor for termites of this invention.
[0009] As for the spring for the digital disposal circuit which 3 amplifies [the dry cell by which 1 becomes the outline of a sensor and 2 becomes a power supply in drawing 1 , and] the signal from a sensor, and is processed, the sway sensor as which 4 detects vibration, the lever which 5 delivers vibration to which a termite emits to a sway sensor, the wood with which 6 becomes the food of a termite, and 7 sticking wood and a lever 5, and 8, **** and 9 are sensor bottom plates.
[0010] The sensor for termites constituted like drawing 1 is installed in the ground of the place usually supposed that it is easy to generate a termite in under floors, such as a kitchen and a bathroom. Since much Echiuroidea, such as a dust insect besides a termite and ****, inhabits the under floor, if mites other than a termite invade in a sensor, a sensor may carry out incorrect detection.
[0011] For this reason, the outline 1 of a sensor separates the sensor bottom plate 9 and few crevices 10 (about about 1mm), and is being fixed. This crevice will become a clear thing if not only an up-and-down interval but width of face on either side is regulated (for example, about 5mm).
[0012] Thus, in the sensor for termites constituted, the termite which invaded from the crevice 11 for an invasion detects the wood of food with an antenna etc., and if it is the good food matter, it will be connected to an associate and it will recognize it as "food" for the first time. Although under floor material other than a sensor also "tastes" simultaneously at this time, since under floor material is using the material which a termite dislikes, finally it will usually eat the wood in a sensor.
[0013] Vibration which generates it when eating the fiber of wood, in order to perform a ********** diet by the powerful jaw spreads the inside of wood 6, and a termite is transmitted to a lever 5, and gets across to a sway sensor 4. Since the lever 5 has stuck firmly on the surface of wood at this time, vibration is transmitted comparatively smoothly and it is reliable.
[0014] However, since the vibration at this time is very detailed, it cannot be taken out with this. Vibration once changed into the electrical signal by the sway sensor 4 is amplified by the digital disposal circuit 3, and it is judged whether it is the diet sound of a termite. A digital disposal circuit 3 emits a detection signal after a judgment if needed.
[0015] Although that by which the sway sensor attached the direct lever in the piezoelectric device is used in this example, the sensor which used electromagnetic induction [record] like pickup for others can be considered. In the termite detection system using the sensor for termites of this invention, the signal from a sensor is notified to a surveillance pin center,large after this using communication terminal machines, such as a modem.
[0016] Drawing 2 is other examples of the sensor for termites of this invention. The same portion as drawing 1 ** the same sign, and the explanation is omitted. In drawing 2 , a termite is pulled to the attractant prepared instead of wood, enters into the main part 1 of a sensor, is transmitted to a lever 5, and goes up and goes to **** 8. At this time, since the small crevice is prepared between the bottom plate 10 and the lever 5, a termite needs to perform operation "across which it goes." That is, operation referred to as exploring a lever 5, catching and hanging down by the leg, sticking an abdomen to a bottom plate 10 is performed.
[0017] And a signal becomes frequent as the number of associates increases gradually. This is gathered by the sway sensor 4 like the above-mentioned example, and it judges whether they are amplification and the set sound of a termite in a digital disposal circuit 3. A digital disposal circuit 3 emits a detection signal after a judgment if needed.

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CLAIMS

[Claim(s)]
[Claim 1] The sensor for termites characterized for an installation means to install the matter which a termite likes and eats near the invasion path of a termite, and a detection means to detect vibration generated when this termite ate the matter by the bird clapper in preparation for the main part of a sensor.
[Claim 2] The sensor for termites characterized for an installation means to install the matter which a termite likes near the invasion path of a termite, and a detection means to detect as vibration that this termite was induced the matter and has flocked near the matter by the bird clapper in preparation for the main part of a sensor.
[Claim 3] The claim 1 characterized by forming opening to the fine slit which can pass only a termite in order to bar invasion of a mite on the above-mentioned main part of a sensor and to prevent incorrect detection of a sensor, or the sensor for termites according to claim 2.
[Claim 4] The claim 1 characterized by sticking a tape etc. for the purpose of making light, such as a flashlight, reflect so that the place installed in the above-mentioned main part of a sensor can be recognized easily, or the sensor for termites according to claim 2.

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PRIOR ART

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[0003] Moreover, as a method of investigating the damage of a common wood noxious insect, the interior of wood was observed from the outside by the supersonic detector etc. as indicated by JP,2-251750,A, it investigated whether the opening would have occurred inside wood, or the acoustic-emission (Following AE is called) sensor was attached in non-inspecting wood as indicated by JP,3-102257,A, and there was the method of observing the sound by which the interior of wood is destroyed etc.

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